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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,736	04/15/2004	Paul Bruinsma	200309260-1	8822

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HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER	
MARTIN, LAURA E	
ART UNIT	PAPER NUMBER
2853	

NOTIFICATION DATE	DELIVERY MODE
03/06/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM
mkraft@hp.com
ipa.mail@hp.com

Office Action Summary	Application No.	Applicant(s)	
	10/825,736	BRUINSMA ET AL.	
	Examiner	Art Unit	
	LAURA E. MARTIN	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 December 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9-22 and 24-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9-22 and 24-30* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 5-7, 9-18, 20-22, 24-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (US 5958121) in view of Takahashi et al. (US 5624484).

Lin discloses the following claim limitations:

As per claims 1 and 16: an ink jet ink including from 0.1 wt% to 6 wt% anionic dye colorant and from 0.5 wt% to 1.0 wt% of an anionic dispersant (column 18, lines 24-43; column 21, lines 11-15 and column 21, lines 46-51); a fixer composition including a cationic crashing agent that is reactive with a component of the ink jet ink (column 11, lines 13-31).

As per claims 2 and 17: a method and a fluid dispensing system, wherein the dispensing system further includes ink-jet ink printing nozzles for printing the ink-jet ink and fixer printing nozzles for printing the fixer composition, and wherein the anionic dispersant is present in the ink-jet ink at an amount that inhibits crashing from occurring at the ink-jet ink printing nozzles (column 1, lines 13-31 and column 16, lines 51-60).

As per claims 6 and 21: a method and a fluid dispensing system, wherein the ink-jet ink and the fixer composition are present in two separate ink-jet pens (column 11, lines 13-31).

As per claims 9 and 24: a method and a fluid dispensing system, wherein the cationic crashing agent is present in the fixer composition at from 1 wt % to 5 wt % (column 15, lines 11-37).

As per claims 12 and 27: a method and a fluid dispensing system, wherein the crashing agent is selected from the group consisting of cationic polymers, multivalent metal ions or ionic groups, acids, and combinations thereof (column 21, lines 11-37).

As per claim 13 and 28: a method and a fluid dispensing system, wherein the crashing agent is a cationic polymer selected from the group consisting of polyvinylpyridines, polyalkylaminoethyl acrylates, polyalkylaminoethyl methacrylates, poly(vinyl imidazole), polyethyleneimines, polybiguanides, polyguanides, polyvinylamines, polyallylamines, polyacrylamines, polyacrylamides, polyquaternaryamines, cationic polyurathenes, aminecelluloses, polysacchride amines, and combinations thereof (column 14, lines 46-63).

As per claims 14 and 29: a method and a fluid dispensing system, wherein the crashing agent is a multivalent metal ion provided by a member selected from the group consisting of multivalent metal nitrate salts, EDTA salts, phosphonium halide salts, organic acid salts, chloride salts, and combinations thereof (column 15, lines 15-42).

As per claims 15 and 30: a method and a fluid dispensing system, wherein the crashing agent is an acid selected from the group consisting of succinic acid, glycolic acid, citric acid, nitric acid, hydrochloric acid, phosphoric acid, sulfuric acid, polyacrylic acid, acetic acid, malonic acid, maleic acid, ascorbic acid, glutaric acid, fumaric acid, tartaric acid, lactic acid, nitrous acid, boric acid, carbonic acid, carboxylic acids such as formic acid, chloroacetic acid, dichloroacetic acid, trichloroacetic acid, fluoroacetic acid, trimethylacetic acid, methoxyacetic acid, mercaptoacetic acid, propionic acid, butyric acid, valeric acid, caprioc acid, caprylic acid, capric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, rinolic acid, rinoleic acid, cyclohexanecarboxylic acid, phenylacetic acid, benzoic acid, o-toluic acid, m-toluic acid, p-toluic acid, o-chlorobenzoic acid, m-chlorobenzoic acid, p-chlorobenzoic acid, o-bromobenzoic acid, m-bromobenzoic acid, p-bromobenzoic acid, o-nitrobenzoic acid, m-nitrobenzoic acid, p-nitrobenzoic acid, oxalic acid, adipic acid, phthalic acid, isophthalic acid, terephthalic acid, salicylic acid, p-hydrobenzoic acid, anthranilic acid, m-aminobenzoic acid, p-aminobenzoic acid, benzenesulfonic acid, methylbenzenesulfonic acid, ethylbenzenesulfonic acid, dodecylbenzenesulfonic acid, 5-sulfosalicylic acid, 1-sulfonaphthalene, hexanesulfonic acid, octanesulfonic acid, dodecanesulfonic acid, amino acids such as glycine, alanine, valine, .alpha.-aminobutyric acid, .alpha.-aminobutryic acid, .alpha.-alanine, taurine, serine, .alpha.-amino-n-caprioc acid, leucine, norleucine, phenylalanine, and combinations thereof (column 11, lines 61-column 12, line 30).

Lin does not disclose the following claim limitations:

As per claims 1 and 16: the fluid dispensing system configured for overprinting or underprinting the fixer composition with respect to the ink jet ink.

As per claims 3 and 18: a method and a fluid dispensing system, wherein the ink-jet printing nozzles and the fixer printing nozzles are present on a common nozzle plate.

As per claims 5 and 20: a method and a fluid dispensing system, wherein the ink-jet printing nozzles and the fixer printing nozzles are serviced by a common wiper.

As per claims 7 and 22: a method and a fluid dispensing system, wherein the ink-jet ink and the fixer composition are present in two separate reservoirs of a common ink-jet pen.

As per claim 11 and 26: a method and a fluid dispensing system as in claim 1, wherein the anionic dispersant polymer has a weight average molecular weight from 4,000 Mw to 50,000 Mw.

Takahashi discloses the following claim limitations:

As per claims 1 and 16: the fluid dispensing system configured for overprinting or underprinting the fixer composition with respect to the ink jet ink (column 14, lines 40-64 and column 3, lines 50-61).

As per claims 2 and 17: a method and a fluid dispensing system, wherein the dispensing system further includes ink-jet ink printing nozzles for printing the ink-jet ink and fixer printing nozzles for printing the fixer composition (figure 8; column 12, lines 44-67), and wherein the anionic dispersant is present in the ink-jet ink at an amount that

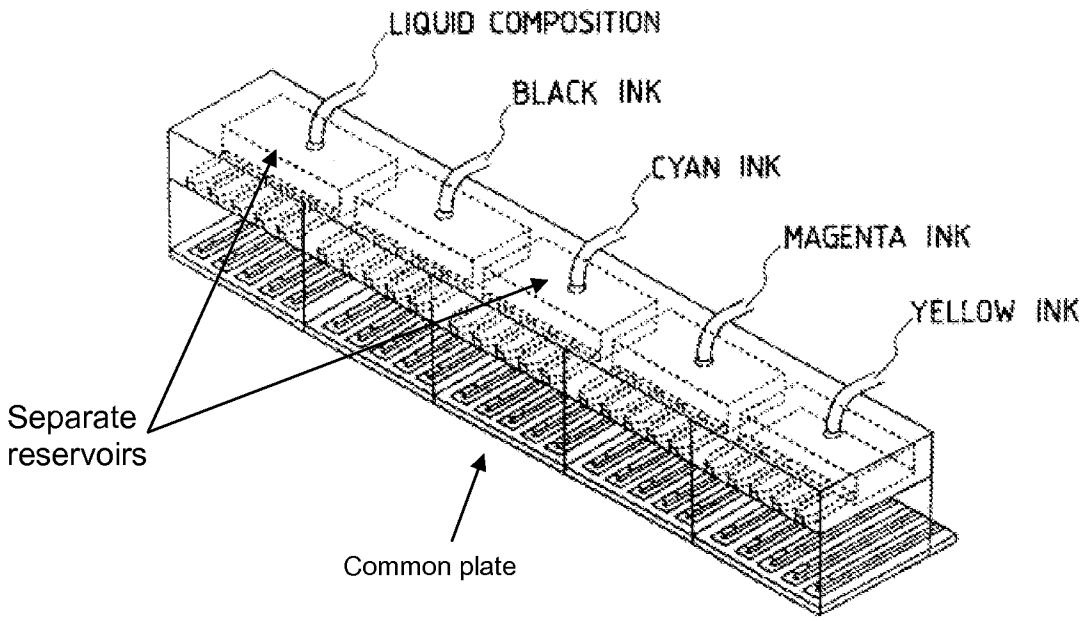
inhibits crashing from occurring at the ink-jet ink printing nozzles (column 5, lines 33-50).

As per claims 3 and 18: a method and a fluid dispensing system, wherein the ink-jet printing nozzles and the fixer printing nozzles are present on a common nozzle plate (column 14, lines 55-60).

As per claims 5 and 20: a method and a fluid dispensing system, wherein the ink-jet printing nozzles and the fixer printing nozzles are serviced by a common wiper (column 2, line 66- column 3, line 28).

As per claims 6 and 21: a method and a fluid dispensing system, wherein the ink-jet ink and the fixer composition are present in two separate ink-jet pens (column 14, lines 22-56).

As per claims 7 and 22: a method and a fluid dispensing system, wherein the ink-jet ink and the fixer composition are present in two separate reservoirs of a common ink-jet pen (figure 8, illustrated below).



As per claims 9 and 24: a method and a fluid dispensing system, wherein the cationic crashing agent is present in the fixer composition at from 1 wt % to 5 wt % (column 6, lines 55-60).

As per claim 11 and 26: a method and a fluid dispensing system as in claim 1, wherein the anionic dispersant polymer has a weight average molecular weight from 4,000 Mw to 50,000 Mw (column 16, lines 56-60; column 17, lines 42-46).

As per claims 12 and 27: a method and a fluid dispensing system, wherein the crashing agent is selected from the group consisting of cationic polymers, multivalent metal ions or ionic groups, acids, and combinations thereof (column 2, lines 53-56).

As per claim 13 and 28: a method and a fluid dispensing system, wherein the crashing agent is a cationic polymer selected from the group consisting of

polyvinylpyridines, polyalkylaminoethyl acrylates, polyalkylaminoethyl methacrylates, poly(vinyl imidazole), polyethyleneimines, polybiguanides, polyguanides, polyvinylamines, polyallylamines, polyacrylamines, polyacrylamides, polyquaternaryamines, cationic polyurathenes, aminecelluloses, polysacchride amines, and combinations thereof (column 2, lines 53-56).

As per claims 14 and 29: a method and a fluid dispensing system, wherein the crashing agent is a multivalent metal ion provided by a member selected from the group consisting of multivalent metal nitrate salts, EDTA salts, phosphonium halide salts, organic acid salts, chloride salts, and combinations thereof (column 5, line 57-column 6, line 9).

As per claims 15 and 30: a method and a fluid dispensing system, wherein the crashing agent is an acid selected from the group consisting of succinic acid, glycolic acid, citric acid, nitric acid, hydrochloric acid, phosphoric acid, sulfuric acid, polyacrylic acid, acetic acid, malonic acid, maleic acid, ascorbic acid, glutaric acid, fumaric acid, tartaric acid, lactic acid, nitrous acid, boric acid, carbonic acid, carboxylic acids such as formic acid, chloroacetic acid, dichloroacetic acid, trichloroacetic acid, fluoroacetic acid, trimethylacetic acid, methoxyacetic acid, mercaptoacetic acid, propionic acid, butyric acid, valeric acid, caprioc acid, caprylic acid, capric acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, rinolic acid, rinoleic acid, cyclohexanecarboxylic acid, phenylacetic acid, benzoic acid, o-toluic acid, m-toluic acid, p-toluic acid, o-chlorobenzoic acid, m-chlorobenzoic acid, p-chlorobenzoic acid, o-bromobenzoic acid, m-bromobenzoic acid, p-bromobenzoic acid, o-nitrobenzoic acid, m-nitrobenzoic acid,

p-nitrobenzoic acid, oxalic acid, adipic acid, phthalic acid, isophthalic acid, terephthalic acid, salicylic acid, p-hydrobenzoic acid, anthranilic acid, m-aminobenzoic acid, p-aminobenzoic acid, benzenesulfonic acid, methylbenzenesulfonic acid, ethylbenzenesulfonic acid, dodecylbenzenesulfonic acid, 5-sulfosalicylic acid, 1-sulfonaphthalene, hexanesulfonic acid, octanesulfonic acid, dodecanesulfonic acid, amino acids such as glycine, alanine, valine, .alpha.-aminobutyric acid, .alpha.-aminobutryic acid, .alpha.-alanine, taurine, serine, .alpha.-amino-n-caprioc acid, leucine, norleucine, phenylalanine, and combinations thereof (column 6, lines 10-26).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and fluid dispensing system of Lin with the disclosure of Takahashi et al. in order to create a stronger ink and higher quality image. It is well known in the art to both over print and under print fixing solutions.

Claims 4 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin (US 5958121) and Takahashi et al. (US 5624484), and further in view of Rutland et al. (US 6328413).

Lin as modified discloses the following claim limitations:

The method and fluid dispensing system of claims 2 and 17

Lin as modified discloses the following claim limitations:

Takahashi et al. as modified does not teach the ink-jet printing nozzles and the fixer printing nozzles are configured in a proximity such that, upon jetting, small

amounts of fixer composition aerosol jetted from the fixer printing nozzles contact the ink-jet ink printing nozzles, thereby resulting in the ink-jet printing nozzles being susceptible to cross-contamination by the fixer composition.

Rutland discloses the following claim limitations:

Rutland teaches ink-jet printing nozzles and the fixer printing nozzles are configured in a proximity such that, upon jetting, small amounts of fixer composition aerosol jetted from the fixer printing nozzles contact the ink-jet ink printing nozzles, thereby resulting in the ink-jet printing nozzles being susceptible to cross-contamination by the fixer composition (column 2, line 66- column 3, line 28).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method and fluid dispensing system of Lin as modified with the disclosure of Rutland et al. in order to allow for covering larger areas of space when printing.

Response to Arguments

Applicant's arguments filed 12/21/07 have been fully considered but they are not persuasive.

Applicant argues that neither Lin nor Takahashi disclose the combination of an anionic dye colorant present with an anionic dispersant; however, the examiner respectfully disagrees. In column 21, lines 12-37, Lin discloses that both the dye or pigment in an ink can be dispersed with a dispersant or stabilizing agent (if a colorant can be dispersed by a stabilizing agent, it can be assumed that the stabilizing agent

would be acting as a dispersant). Lin teaches suitable stabilizing agents to include anionic dispersants. Applicant also argues that Lin discloses anionic dyes and anionic stabilizers (dispersing agents) separately; however, the examiner notes that a list of suitable dyes is provided in column 18, line 44—column 19, line 62. It is noted that this list includes anionic dyes and does not teach against using said anionic dyes in the ink compositions containing anionic dispersants. Lin also does not teach against using anionic stabilizing agents, such as an anionic dispersant, with any particular type of dye. Thus, Lin discloses using an anionic dispersant and an anionic dye in the same ink.

As per claims 4 and 19, Rutland discloses means of printing which include crossover in the background of the invention. While Rutland teaches his invention minimizing aerosol that creates cross-contamination, it does not disclose completely eliminating cross-contamination. Thus, Rutland reads on the claim language.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura E. Martin whose telephone number is (571) 272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/L. E. M./

Laura E. Martin

/Manish S. Shah/
Primary Examiner, Art Unit 2853